

CAREX AMPLIFOLIA AND *CAREX ROSSII* (CYPERACEAE), NEW TO NEW MEXICO AND A KEY TO SECTION *MONTANAE* IN NEW MEXICO.—*Carex amplifolia* F. Boott, a western wetland caric-sedge, and *C. rossii* F. Boott, a predominantly Rocky Mountain caric-sedge, previously unreported for New Mexico, have been found in the northern Black Range of the Gila National Forest.

Carex amplifolia section *Anomalae* Carey, was reported from Idaho to British Columbia, and southward to San Mateo and Tulare counties, California by Mackenzie (1935). Mackenzie cited specimens from Idaho, British Columbia, Washington, Oregon, and California. Other authors (Hermann 1970; Cronquist et al. 1977; Hickman 1993) have mirrored Mackenzie's distribution. This species was not included in the flora of New Mexico by Correll and Correll (1972) and Martin and Hutchins (1980). With this new location, the range of this species has been extended ca. 1000 km (625 mi) east from Tulare County, California.

Carex amplifolia is the only representative of section *Anomalae* in New Mexico. The most closely related taxon in New Mexico is *C. limosa* L. of section *Limosae* Tuckerman. *Carex limosa* differs from *C. amplifolia* by having beakless or very slightly beaked perigynia and pistillate spikes 2.5 cm or less long. However, the existence of *C. limosa* in New Mexico is dubious. We have not seen specimens from New Mexico and the only reference to its existence in the state is Martin and Hutchins (1980). Excluding *C. limosa*, *C. amplifolia* differs from all other *Carex* in New Mexico that share a trigonous achene, a style jointed with the achene, and glabrous perigynia by having its lower bracts being sheathless or very short sheathing. *Carex amplifolia* is characterized by having long, stout rhizomes with erect culms up to ca. 7.5 dm tall; leaves usually greater than 1 cm wide; the terminal one or two spikes being staminate with the lower four to five spikes being pistillate; each pistillate spike bearing over 100 perigynia; and perigynia are ovoid, obtusely trigonous, smooth or nearly so, and abruptly contracted into a conic, more-or-less excurved beak.

Carex amplifolia was located along the edge of Diamond Creek in association with *C. bella* L.H. Bailey, *C. disperma* C. Dewey, *Pteridium aquilinum* (L.) Kuhn var. *pubescens* Underwood, and *Alnus tenuifolia* Nuttall in a mixed conifer forest of *Picea engelmannii* Parry ex Engelman var. *engelmannii*, *Pseudotsuga menziesii* (Mirbel) Franco var. *glauca* (Beissner) Mayr, and *Pinus ponderosa* P. Lawson var. *scopulorum* Engelman. The elevation of the collection location is ca. 2438 m (8000 ft) and is situated along the border of Sections 1 and 2 of Range 10W, Township 12S. This population was located near the NW corner of the Aldo Leopold Wilderness, which can be

accessed from NM 51 along U.S. Forest Routes 226 and 500. The population is ca. 2 miles S by foot from the terminus of USFR 500.

Voucher specimen. U.S.A. NEW MEXICO. Sierra Co.: along edge of Diamond Creek, ca. 3.5 air mi N of Diamond Peak, W-SW of Winston, 16 Jun 1994, *Roalson* 879 (NMCR, sdj = pers. herb. of Stanley D. Jones).

Carex rossii, section *Montanae* Fries, is known from the mountains of Colorado to middle California, and northward to Yukon, eastward to the Black Hills of South Dakota, and locally to northern Michigan (Mackenzie 1935). Hermann (1970) and Cronquist et al. (1977) reported a similar range with the addition of the Kaibab Plateau in northern Arizona. This location extends its known range by ca. 490 km (306 mi) from northern Arizona. This species was not included in the flora of New Mexico by Martin and Hutchins (1980). While looking through unidentified specimens of *Carex* at UNM, a specimen of *C. rossii* collected in 1963 was discovered. This specimen was collected in Taos County, New Mexico, N of the small town of La Lama. Other representatives of section *Montanae* in New Mexico are *C. heliophila* Mackenzie, and *C. geophila* Mackenzie.

KEY TO CAREX SECTION MONTANAE IN NEW MEXICO

- 1a. Fertile culms all alike, bearing both staminate and pistillate spikes; basal spikes absent. *C. heliophila* Mackenzie
- 1b. Fertile culms of two types, some short, 1–5 cm. long, partly hidden among the densely tufted leaf-bases and bearing only pistillate spikes, other culms elongated, 5–30 cm. long, and bearing both staminate and pistillate spikes. 2
 - 2a. Bract of the lowest nonbasal pistillate spike leaf-like, normally exceeding the culm. *C. rossii* F. Boott
 - 2b. Bract of the lowest nonbasal pistillate spike squamiform, shorter than the culm. *C. geophila* Mackenzie

Carex rossii is characterized by having medium-sized, more-or-less densely cespitose clumps, without long horizontal stolons; culms 5–30 cm high, slender but erect and strict; leaf blades usually less than 6 cm long, 1–2.5 mm wide, thin but firm; staminate spike sessile or short-peduncled, erect, 3–15 mm long, exceeding the contiguous pistillate spike; pistillate spikes 3–5, sessile or short-peduncled, perigynia 3–15, lower bract leaf-like, normally exceeding the culm; perigynia 3–4.5 mm long, abruptly contracted into a conic, ciliate-serrulate, deeply bidentate beak. *Carex rossii* was collected on N-facing slopes that had been burned in a forest fire in July 1990. The area is now dominated by *Populus tremuloides* A. Michaux var. *aurea* (Tidestrom) Daniels, *Physocarpus monogynus* (Torrey) Coulter, *Rubus strigosus* A. Michaux var. *arizonicus* (Greene) Kearney and Peebles, and *Robinia*

neomexicana A. Gray var. *neomexicana*. Tufted plants of *Carex deweyana* Schweinitz were commonly associated with the tufts of *C. rossii*. *Zigadenus virescens* (Kunth) Macbride and *Symphoricarpos* spp. were common on the slopes. The elevation at the collection site is ca. 2865 m (9400 ft) and is located in Range 10W, Township 12S, Section 24. The Continental Divide Trail runs along this slope in several switchbacks from the base to summit of the ridge.

Voucher specimen. U.S.A. NEW MEXICO. Sierra Co.: silty slopes along Continental Divide Trail, N of Diamond Peak, N-facing slope, SW of Winston, 27 Jul 1994, Roalson 975 (NMCR, MICH). Taos Co.: 2 mi N of La Lama, S13 T28N R12E, 7800 ft, 30 Jul 1963, Goodrow 375 (UNM).

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